Metal/Nonmetal - Underground Fatalities Second Half - 1988

U.S. Department of Labor
Mine Safety and Health Administration

ABSTRACTS WITH ILLUSTRATIONS

ANALYSIS AND SUGGESTED USES

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INTRODUCTION

The 1988 Fatal Illustration Program is divided into four large categories or subject areas. These categories are underground coal mining; surface coal mining; underground metal/nonmetal mining; and surface metal/nonmetal mining.

The materials in this unit include illustrated abstracts (summaries) of all chargeable underground metal/nonmetal fatalities for the second six months of 1988 accompanied by 35mm slides, and a statistical analysis of the accidents in that category.

The analysis section retains the same format used in past years. This package of materials, through its abstracts, slides and statistics, has been an effective training tool for the mining industry, especially small mines. This program has been used by various companies in safety meetings, annual refresher training, new miner training, and task training.

Each year, we attempt to improve our Fatal Illustration Program based on comments received from the mining industry. In response to suggestions received on our 1987 Program, the second half of the 1988 Fatal Illustration Program is now available on videotape.

Since a large percentage of the 1988 fatalities were classified as powered haulage and several victims were contractor employees, the Academy is developing separate fatal illustration programs covering these two areas. These two programs are also available from the Academy at no cost.

How Companies Use the Fatal Illustration Program

Many mining companies use the Fatal Illustration Program to train supervisory and nonsupervisory personnel. The abstracts, slides and statistics readily lend themselves to group safety training, new miner training, and task training.

Following are quotations from various mining companies and organizations that use this material in their training programs:

"These slides and written descriptive comments will be a part of our annual refresher courses."

Bromley Mine & Mill

"The pictures and explanations of accidents make for an excellent training aid."

City of Duluth, Minnesota

"The incidents listed are very thorough and I feel that they are a real benefit to other employees that are in the same occupations."

Millers Ave. Energy Co., Inc.

"I want you to know that these slides of real world accidents open the eyes of our students to what the real world can be like. The old addage 'a picture is worth a thousand words' truly applies in this context."

Colorado School of Mines

"These slides are excellent in depicting dangers to students who will soon be employed in the industry. They make a lasting impression."

West Virginia University

Fatalities - Underground Metal/Nonmetal Mines

Second Half 1988

Statistical Analysis

Three fatal accidents occurred at underground metal/nonmetal mines during July through December 1988.

Victim's Experience

- One of the 3 victims had only 6 months experience on the job he was doing when he was fatally injured.

Accident Classification

- Fall of roof/back/ground, electricity, and powered haulage each accounted for 1 fatality.

Victim's' Occupation

- The victims were an electrician, a driller and a scraper operator.

Mining Operation

- Two of the 3 fatalities occurred at zinc operations, and 1 at a gold operation.

Mine Size

- Two of the second half fatalities occurred at large mines (20 or more employees). The size of the third operation is unknown.

Fatalities by Victim's Age
Underground Metal/Nonmetal 1988

This Table Shows Fatalities by Age of Victim

First Half 1988

Age (Years)	Number of Fatalities
26-30	1
31-35	3
51-55	2

Second Half 1988

Age (Years)	Number of Fatalities
36-40	1
41-46	2

Fatalities by Victim's Experience
Underground Metal/Nonmetal 1988

This Table Shows Fatalities by Victim's Experience

First Half 1988

Experience (Years)	Mining Experience	Job Experience	Experience This Mine
0 - 6 mos.	-	2	2
6 mos.-1 yr.	1	-	-
1 - 2 yrs.	-	1	1
3 - 4 yrs.	2	2	2
5 - 6 yrs.	-	1	1
14 - 15 yrs.	2	-	-
22 - 23 yrs.	1	-	-

Second Half 1988

Experience (Years)	Mining Experience	Job Experience	Experience This Mine
0 - 6 mos.	-	1	1
6 - 7 yrs.	1	-	-
12 - 13 yrs.	1	1	1
16 - 17 yrs.	-	1	1
26 - 27 yrs.	1	-	-

Fatalities by Accident Classification
Underground Metal/Nonmetal 1988

This Table Shows Fatalities by Accident Classification

Classification	Fatalities (1st Half '88)	Fatalities (2nd Half '88)	Fatalities (Total '88)
Electrical	-	1	1
Fall of Ground/Roof/Back	3	1	4
Fall of Person	1	-	1
Falling/Sliding Material	1	-	1
Machinery	1	-	1
Powered Haulage	-	1	1

Fatalities by Victim's Occupation
Underground Metal/Nonmetal 1988

This Table Shows Fatalities by Victim's Occupation

Occupation	Fatalities (1st Half '88)	Fatalities (2nd Half '88)	Fatalities (Total '88)
Driller	-	1	1
Electrician	-	1	1
Miner	6	-	6
Scraper Operator	-	1	1

Fatalities by Mine Size
Underground Metal/Nonmetal 1988

This Table Shows Fatalities by Size of Mine

Mine Size	Fatalities (1st Half '88)	Fatalities (2nd Half '88)	Fatalities (Total '88)
Small*	1	-	1
Large**	5	2	7
Unknown	-	1	1

* Less than 20 employees

** 20 or more employees

Fatalities by Mining Operation
Underground Metal/Nonmetal 1988

This Table Shows Fatalities by Type of Mining Operation

Mining Operation	Fatalities (1st Half '88)	Fatalities (2nd Half '88)	Fatalities (Total '88)
Gold	3	1	4
Phosphate	2	-	2
Silver	1	-	1
Zinc	-	2	2

SLIDE INDEX

Fatalities by Occupation
Underground Metal/Nonmetal - Second Half 1988

You will find fatalities that happened to:

DRILLERS on slide 8

ELECTRICIANS on slide 6

SCRAPER OPERATORS on slide 7

Fatalities by Accident Classification
Underground Metal/Nonmetal - Second Half 1988

You will find:

ELECTRICAL fatalities on slide 6

POWERED HAULAGE fatalities on slide 7

FALL OF ROOF OR BACK on slide 8

Fatalities by Type of Mining Operation
Underground Metal/Nonmetal - Second Half 1988

You will find fatalities that happened at:

GOLD operations on slide 7

ZINC operations on slides 6 and 8

ABSTRACT OF INVESTIGATION

Date: July 15, 1988
Slide Number: 6 Fatal Case Number: 27
Accident Classification: Electrical
Type of Mine: Zinc - Underground
Location: Tennessee

Age of Victim: 38
Total Mining Experience: 12 years, 2 months
Total Experience at this Mine: 12 years, 2 months
Total Experience this Job: 12 years, 2 months
Number Employed at Mine: 87
Number Working at Time of Accident: 35
Time of Accident: 2:25 p.m.

An electrician was fatally injured when he contacted an energized 4160-volt terminal located inside a transfer switch cabinet. An electrical apprentice who contacted the victim also received an electrical shock but was not seriously injured. The two men were standing inside the cabinet attempting to clean the transfer switch terminal insulators and other components. The victim contacted the energized side of one of the terminals. The victim's right shoulder was also in contact with the side of the grounded metal cabinet. Although the feeder line on which they were working had been deenergized and locked out, one side of the switch terminals were energized by a second feeder line that was used to provide power to the mine in the event one line failed.

Means of Prevention:

1. Power circuits shall be deenergized before work is done on such circuits unless hot-line tools are used.
2. Specific job procedures should be written and followed when working on high voltage electrical circuits.
3. Signs or labeling should be installed on the transfer switch cabinet to warn that internal parts are energized due to the "crossover-jump-phase bonding cables".

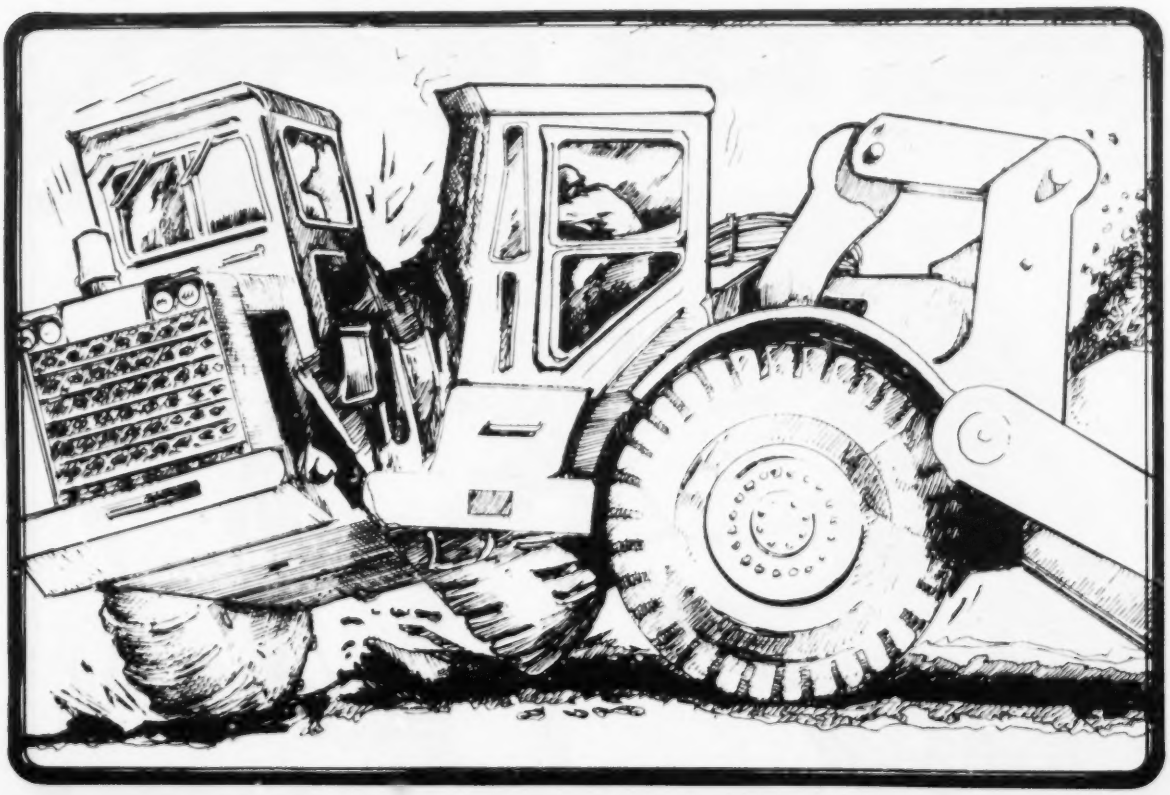
ABSTRACT OF INVESTIGATION

Date: October 6, 1988
Slide Number: 7 Fatal Case Number: 38
Accident Classification: Powered Haulage
Type of Mine: Gold - Surface at Underground Mine
Location: South Dakota

Age of Victim: 41
Total Mining Experience: 6 years (Heavy Equip. Oper.)
Total Experience at this Mine: 3 months
Total Experience this Job: 6 months (Contractor Co.)
Number Employed at Mine: 1337
Number Working at Time of Accident: Unknown
Time of Accident: 10:00 p.m.

A scraper operator, employed by an independent contractor, was fatally injured when the scraper he was driving crossed over into the path of an on-coming scraper. The victim approached a slight left curve intersection in the left (opposing) travel lane and proceeded straight through the intersection directly into the path of the on-coming scraper. The victim's scraper was struck broad side on the driver's side of the cab. Both scrapers were equipped with ROPS and both operators were wearing seat belts. However, the victim's seat broke loose as a result of the impact. He died several hours later as a result of severe head injuries.

Means of Prevention:
Operators of self-propelled mobile equipment shall maintain control of the equipment while it is in motion. Operating speeds shall be consistent with conditions and the type of equipment used.



ABSTRACT OF INVESTIGATION

Date: October 24, 1988
Slide Number: 8 Fatal Case Number: 42
Accident Classification: Fall of Roof or Back
Type of Mine: Zinc - Underground
Location: Tennessee

Age of Victim: 46
Total Mining Experience: 26 years, 5 months
Total Experience at this Mine: 17 years
Total Experience this Job: 17 years
Number Employed at Mine: 89
Number Working at Time of Accident: 35
Time of Accident: 1:00 p.m.

A driller was fatally injured when he was struck by falling rock from the roof of a stope where he was drilling. The victim was operating a two-boom jumbo drill which was equipped with a falling object protective canopy. Evidence at the scene indicated that loose ground had apparently fallen on the right boom during the drilling cycle. Since there were no witnesses to the accident, it is assumed that the victim walked to the rear of the unit to check for loose material or to assess damage caused by rock that had already fallen, and was struck by falling rock.

Means of Prevention:

1. Experienced persons shall examine and, where applicable, test ground conditions in areas where work is to be performed prior to work commencing, after blasting, and as ground conditions warrant during the work shift.
2. Ground conditions that create a hazard to persons shall be taken down or supported before work or travel is permitted in the affected area.